

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

## PCT

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/NO2004/000396

International filing date (day/month/year)  
21.12.2004

Priority date (day/month/year)  
22.12.2003

International Patent Classification (IPC) or both national classification and IPC  
B62M3/06, A63B22/06, A63B23/04, B62M3/02

Applicant  
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**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 b/s(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA:



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10/583831

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/NO2004/000396

AP20 Rec'd PCT/PTO 21 JUN 2006

**Box No. I Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/NO2004/000396

**Box No. III Non-establishment of opinion with regard to novelty, Inventive step and industrial applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
- ☒ claims Nos. 45-83

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the whole application or for said claims Nos. 45-83
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
  - the written form ☐ has not been furnished
  - ☐ does not comply with the standard
  - the computer readable form ☐ has not been furnished
  - ☐ does not comply with the standard
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.
- ☐ See separate sheet for further details

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
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**Box No. IV Lack of unity of invention**

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1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
- ☐ paid additional fees.
  - ☐ paid additional fees under protest.
  - ☒ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
  - ☒ not complied with for the following reasons:  
**see separate sheet**
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
  - ☒ the parts relating to claims Nos. 1-44

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**Box No. V Reasoned statement under Rule 43b/s.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	2, 4, 6, 8-30, 33-44
	No: Claims	1, 3, 5, 7, 31, 32
Inventive step (IS)	Yes: Claims	4, 6, 8-21, 33-38
	No: Claims	1-3, 5, 7, 22-32, 39-44
Industrial applicability (IA)	Yes: Claims	1-4
	No: Claims	

2. Citations and explanations

**see separate sheet**

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

PCT/NO2004/000396

**Re Item IV.**

Since no search was performed for claims 45-83 (cf. item IV below), examination will be based only on claims 1-44.

**Re Item IV.**

The separate inventions/groups of inventions are:

**Group 1: claims 1-44**

- A) An apparatus (suitable for physical exercise or training and with means which provide for a plurality of different workout options simulating human physical movements,)
- B) an apparatus frame,
- C) a crank device mounted thereon, said crank device utilising cardanic motion
- D) a pair of crankarms each comprised of at least two parts, a first part being an inner crank arm and a second part being an outer crank arm, an inner crank arm axle to which said inner crank arm is rotationally attached,
- E) a first gear forming a sun gear through which said inner crank arm axle rotatably extends, said first gear being fixedly attached to a crank device frame,
- F) a second gear rotatably attached to an outer end of the inner crank arm, said outer crank arm at one end fixedly attached to said second gear and at the other end carrying a foot support,
- G) said first and second gears having a transmission ratio of 2:1,
- H) means connecting the first and second gears to enable the second gear to revolve around or along the first gear when human force leg force is applied to said foot support,
- I) a flywheel with or linked to movement braking means,
- J) a pair of handles stationary linked to the frame or movably linked to rotational movement means on the crank device to cause reciprocal movement of the handles;
- K) a first distance defined to be between a foot support attachment location on the outer crank arm and a centre of the second gear being equal to or larger than a second distance defined to be between the centre of the second gear and inner crank axle or centre of the first gear.

Group 2: claim 45

- L) A foot support (suitable for use with a stationary apparatus for physical exercise, said apparatus having a crank device with outer crank arms) ,  
M) wherein the foot support in one operational position is non-tiltable sideways (relative to its crank caused direction of movement),  
N) and wherein the foot support in a second operational position is tiltable sideways (relative to its crank caused direction of movement).

Group 3: claim 46

- L) A foot support (suitable for use with an a stationary apparatus for physical exercise, said apparatus having a crank device with outer crank arms,) ,  
O) wherein the foot support is a foot supporting platform (interactive with posture control means in said crank device to retain the foot support in an unchanged posture, e.g. horizontal, throughout an entire path cycle of the foot support.)

Group 4: claims 47-69

- C) A crank device (suitable for use with an apparatus for physical exercise, said crank device connectable to foot supports for a user in order to drive the crank device),  
D) a pair of crank arms each comprised of at least two parts, a first part being an inner crank arm and a second part being an outer crank arm, an inner crank arm axle to which said inner crank arm is rotationally attached,  
E) a first gear forming a sun gear through which said inner crank arm axle rotatably extends, said first gear being fixedly attached to a crank device frame,  
F) a second gear rotatably attached to an outer end of the inner crank, said outer crank arm at one end fixedly attached to said second gear and at the other end carrying said foot support,  
G) said first and seconds gears having a transmission ratio of 2: 1,  
H) means connecting the first and second gears to enable the second gear to revolve around or along the first gear when human force leg force is applied to said foot support,  
K) wherein a first distance defined to be between a foot support attachment point on the outer crank arm and a centre of the second gear is equal to or larger than a second distance defined to be between the centre of the second gear and inner crank axle or centre of the first gear.

Group 5: claims 70-83

- C) A crank device (suitable for use with an apparatus for physical exercise,) said crank device connectable to foot supports for a user in order to drive the crank device,
- D) a pair of crank arms each comprised of at least two parts, a first part being an inner crank arm and a second part being an outer crank arm, an inner crank arm axle to which said inner crank arm is rotationally attached,
- E) a first gear forming a sun gear through which said inner crank arm axle rotatably extends, said first gear being fixedly attached to a crank device frame,
- F) a second gear rotatably attached to an outer end of the inner crank arm, said outer crank arm at one end fixedly attached to said second gear and at the other end carrying said foot support,
- G) said first and second gears having a transmission ratio of 2: 1,
- H) means connecting the first and second gears to enable the second gear to revolve around or along the first gear (when human force leg force is applied to said foot support),
- P) wherein the outer crank arm has means for stabilising posture of a foot support relative to the frame throughout a full cycle of a path followed by said foot support,
- Q) said stabilising means comprising: a set of pulleys or gears rotationally attached to the outer arm, and linked with the inner crank arm for transferring a 1:2 motion ratio to the foot support to maintain said stabilised posture, and movement transferring means between said pulleys or gears.

They are not so linked as to form a single general inventive concept (Rule 13.1 PCT) for the following reasons:

In order that an International Application may contain more than one invention, the inventions defined in the application must form "a group", namely they should be so linked, as to form a single general inventive concept (see Rule 13.1 PCT). This inventive concept finds expression in the independent claims according to the different inventions in terms of the same or corresponding special technical features. The definition "special technical features" refers to the features which, in the independent claims, involve an inventive step over the prior art.

In the present case the common or corresponding features of Groups 1, 3 and 5 (corresponding to independent claims 1, 47 and 70) are features C)-H). These features are

disclosed in the documents cited in the search report, see e.g. in document WO9903727, and are therefore not only not inventive, but not even new. Moreover, there are no same or corresponding special technical features between Groups 1, 4 and 5 and Groups 2 and 3. The remaining features of these Groups/independent claims are different and do not define "a common concept", and, being directed to the solution of different problems, are not correspondent.

Therefore the application is considered to encompass four different, separate inventions, and the requirement for unity of invention referred to Rule 13.1 PCT is not fulfilled.

**Re Item V.**

- 1 Reference is made to the following document:

D1 : WO 99/03727 A (SEGASBY, MARK) 28 January 1999 (1999-01-28)

D2: EP-A-0 761 528 (MATSUURA, HIROMU) 12 March 1997 (1997-03-12)

**2 INDEPENDENT CLAIM 1**

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parentheses applying to this document) an apparatus (cf. p. 3) for physical exercise or training and with means which provide for a plurality of different workout options simulating human physical movements, comprising: an apparatus frame having a crank device (fig. 2) mounted thereon, said crank device utilising cardanic motion, a pair of crank arms (28, 30) each comprised of at least two parts, a first part being an inner crank arm (28) and a second part being an outer crank arm (30), an inner crank arm axle (at 24a) to which said inner crank arm is rotationally attached, a first gear forming a sun gear (24) through which said inner crank arm (28) axle rotatably extends, said first gear (24) being fixedly attached to a crank device frame, a second gear (20) rotatably attached to an outer end of the inner crank arm (28), said outer crank arm (30) at one end fixedly attached to said second gear (20) and at the other end carrying a foot support (32), said first and second gears having a transmission ratio of 2 : 1, and means (26) connecting



the first and second gears to enable the second gear to revolve around or along the first gear when human force leg force is applied to said foot support, a flywheel (cf. p. 3) with or linked to movement braking means (cf. p. 3), a pair of handles (cf. p. 7) stationary linked to the frame or movably linked to rotational movement means on the crank device to cause reciprocal movement of the handles; and a first distance defined to be between a foot support (32) attachment location on the outer crank arm and a centre of the second gear (20) being equal to or larger than a second distance defined to be between the centre of the second gear (20) and inner crank axle (at 24a) or centre of the first gear (24).

**3 DEPENDENT CLAIMS 2, 3, 5, 7, 22-32, 39-44**

Dependent claims 2, 3, 5, 7, 22-32, 39-44 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT), see documents D1 and D2 and the corresponding passages cited in the search report.

**4 DEPENDENT CLAIMS 4, 6, 8-21, and 33-38**

The combination of the features of dependent claims 4, 6, 8-21, and 33-38 is neither known from, nor rendered obvious by, the available prior art.

Remark: Nevertheless, claim 4 does not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. The following functional statement that "the crank device has means for adjusting location of the foot supports on the outer crank arm in the course of an ongoing workout session, so to change the size or character of a motion or path" does not enable the skilled person to determine which technical features form the adjusting means which are necessary to perform the stated functions.